

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An RF module, comprising:

a first waveguide having a ground electrode and a line-shaped conductor portion for propagating electromagnetic waves in a TEM mode; and

a second waveguide connected to the first waveguide, for propagating electromagnetic waves in another mode different from the TEM mode,

wherein the second waveguide has a region surrounded by at least two ground electrodes stacked in a vertical direction so as to face each other and conductors for bringing the at least two ground electrodes into conduction, wherein electromagnetic waves in said another mode propagate in the region, and a connecting window is provided in one of the at least two ground electrodes,

the first waveguide extends in a stacking direction of the ground electrodes of the second waveguide, an end of the ~~line-shaped conductor portion~~ first waveguide is directly short-circuited and conductively connected from an upper side or a lower side of the stacking direction side to one of the ground electrodes of the second waveguide at a periphery of the connecting window in a plane containing the connecting window, the one of the ground electrodes of the second waveguide having the connecting window, and

magnetic fields of the first and second waveguides are coupled in an H plane of the second waveguide so that the direction of the magnetic field of electromagnetic waves propagated in the first waveguide and the direction of the magnetic field of electromagnetic waves propagated in the second waveguide match with each other.

2. (Original) An RF module according to claim 1, wherein the second waveguide is to propagate electromagnetic waves in a TE mode.

3. (Canceled)

4. (Currently Amended) An RF module according to claim 1, wherein regions for electromagnetic wave propagation in the second waveguide ~~has~~ define a structure including a plurality of propagation regions for propagating electromagnetic waves in different directions, the plurality of the propagation regions each having the H-plane, and ~~the~~ an end of ~~the line-shaped conductor portion of~~ the first waveguide is ~~directly short-circuited and~~ conductively connected to ~~a boundary portion~~ portions of the plurality of propagation ~~region~~ regions of the second waveguide and

the magnetic field of the first waveguide is coupled in the H plane in the plurality of propagation regions in the second waveguide.

5. (Currently Amended) An RF module according to claim 4, wherein ~~the~~ an end of ~~the line-shaped conductor portion of~~ the first waveguide is ~~directly short-circuited and~~ conductively connected to ~~a boundary portion~~ portions of the plurality of propagation regions of the second waveguide so that said electromagnetic waves propagated through the first waveguide ~~propagates~~ propagate so as to be branched into the plurality of propagation regions in the second waveguide.

6. (Previously Presented) An RF module according to claim 1, wherein the second waveguide is to propagate the electromagnetic waves of the another mode in a multiple mode.

7-8. (Canceled)